**“Finding X” Name:**

In general:

* Deal with things added to/subtracted from the term with the variable, then things multiplied onto/divided into the variable.
* Look at what the number is doing relative to the variable, remove the number, and do the opposite to the other side.

1. Numbers being added/subtracted relative to the term with the variable.

Or, simply: X + 5 = 2

X **~~+ 5~~** = 2 *– 5*

X = -3

Take to the other side and do opposite operation

(Opposite of + is -)

Example. Solve for X:

X + 5 = 2

X ~~+ 5~~ *~~– 5~~* = 2 *– 5*

X = -3

Try These. Solve for X:

1. X + 3 = 6 b. X – 3 = 6 c. 3 + X = -6 d. 3 – X = 6
2. Numbers being multiplied/divided relative to the term with the variable

Examples. Solve for X:

Or, simply: ½ X = 5

**~~½~~** X = 5*\*2*

X = 10

Take to the other side and do opposite operation

Or, simply: 5X = 15

**~~5~~**X = 15*÷5*

X = 3

Take to the other side and do opposite operation

a. 5X = 15 b. ½ X = 5

~~5~~X*/~~5~~* = 15*/5* **~~½~~** X *\*****~~2~~*** = 5*\*2*

X = 3 X = 10

(Op. of mult is divide) (Op. of divide is mult.)

Try These. Solve for X:

1. 3X = 24 b. -3X = 24 c. X÷4 = 6 d. ¼ X = -6
2. Putting it all together.

Example. Solve for the variable:

3X – 5 = 40

3X – 5 *+ 5* = 40 *+ 5* (deal with the term added/subtracted from the X term first)

3X = 45

3X*÷3* = 45*÷3* (then deal with the number multiplied or divided onto X)

X = 15

Try These. Solve for the variable:

1. 4X + 5 = 21 b. -6A + 2 = 20 c. ½ R – 3 = 7 d. 4 + 5Y = 19

e. 7 – H = -9 f. -2 – 2F = -2 g. - ¼ V + 8 = 5 h. X÷5 + 2 = ⅕

i. 5 = 4Y – 3 j. 7 = ⅖H + 1 k. ¼ = ¼R + 2 l. 7 = 9 + 5V

m. 2K + 3 = 3K + 5 n. 5N – 3 = 4 – 7N o. ½M + ⅓=1–M p. -2P + ⅘ = 3 + ⅓P